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EUSPRIG MEETING FOCUSES ON DOING IT RIGHT THE FIRST TIME

by Mary Pat Campbell

This past July, EuSpRIG [European Spreadsheet Risks Interest Group] held their annual meeting in Paris, under the theme "The Role of Spreadsheets in Organizational Excellence."

From basic research in the sources of spreadsheet error to very concrete, practical tips for the daily user, to policy and auditing discussions, this year's conference adds to the already considerable resources produced by the members of EuSpRIG. Let me highlight a few of the presentations:

Keynote: Technical Standards for Modeling

This presentation was given by Deniz Sumengen, from the Board of Actuarial Standards [BAS] at the Financial Reporting Council. BAS was created after the Morris Review in the UK, and is tasked with setting up independent actuarial technical standards for that country.

In Sumengen's presentation, she highlighted an exposure draft on technical actuarial standards in modeling [TAS M], where modeling is defined very broadly, and is indeed a large part of actuarial work.

She noted there were a variety of general problems with models:

- Lack of testing
- Poor documentation
- Misunderstanding [of what the model covers, or what the

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POLL 

What do you think of the new CompAct format?

I love it!

It's better than the printed version

The print version was better / more convenient

I'm not sure - what's CompAct?

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- Over-reliance on an established view
- Unrealistic assumptions

Below, I draw out some of the main points from the draft exposure of TAS M:

- Documentation should be sufficiently detailed, include statement of purpose of the model, and be clear, unambiguous, and complete
- Models shall represent all phenomena relevant to their purpose
- Models shall be no more complex than can be justified
- Documentation shall include assumptions used in the model
- Model results shall be reproducible
- Checks will be constructed, performed, and documented to test theoretical, implementation, and end result issues
- Model limitations shall be disclosed

This is a rather robust, rigorous set of requirements. Of course, judgment on the part of the modelers plays a large role in these standards, but the principles are good for normal practice. The FRC is inviting comment, and some comment can already be seen on the current draft report. While this would apply only to the UK, I have been told by Sumengen's colleague Louis Pryor that they invite comment from anybody.

If nothing else, look over the report [they have the comments at the beginning, and TAS M itself can be found at the end of the document], and consider incorporating these practices in your own work. I think getting into these sorts of practices will definitely help with dealing with the more complex modeling that is becoming part of the standard actuarial toolkit.

[Presentation](#)  | [Exposure draft of TAS M](#) 

Self-checks and Controls in Spreadsheets

This presentation by Patrick O'Beirne focused on very concrete practices to check one's spreadsheets. These practices are:

1. Cross foot
2. Balance
3. Proportion


4. Multiple plus ungood
5. Room for expansion
6. Other sources of information
7. Expectations
8. Top 10 spreadsheet questions checklist

Let me talk about a few of these items. The first, cross foot, involves doing column sums and row sums on the same information, and making sure the overall total is equal for both. This is one of the oldest spreadsheet checks extant. He recommends having this crosscheck cell flagged with conditional formatting, so that the difference pops out to your attention if the difference is beyond a certain tolerance [the difference is unlikely to be zero, just from floating-point arithmetic issues].

The fifth item, room for expansion, relates to a common problem with formulas over ranges: what happens if you insert or delete cells in that range? Often there are issues of missed cells in sums because one has inserted new data at the beginning or end of the range [a problem, I'll note, that is caught by cross-footing.] O'Beirne recommends having sums start and end with empty cells, so if you insert cells/rows/columns at the beginning or end of the ranges containing numbers, Excel will properly update.

And the final item, is a checklist of questions, which I highly recommend. I would make an analogy to the preflight checklist pilots perform. Once you have this routine, you won't have to worry about particular issues being forgotten. Many professionals in other areas have complained about institutionalized checklists, as being demeaning of their great professionalism and intellect [pilots originally complained, and similar systems have become part of pre-surgery in hospitals, but not without complaint], but this has been a very effective tool in reducing operational risk.

Check out the links below to see descriptions of the other items in O'Beirne's list. I previously reviewed O'Beirne's book Spreadsheet Check and Control for CompAct, and these items do show up there. But if you want a free, short list of tips you can apply right away, check out O'Beirne's paper below.

[Presentation](#)  | [Paper](#) 

An Exploratory Analysis of the Impact of Named Ranges on the Debugging Performance of Novice Users
This paper, presented by Ruth McKeever, Kevin McDaid, and Brian


Bishop of the Dundalk Institute of Technology won the Student Prize from the conference, as the judges noted it was a " well-designed and thoroughly executed piece of research."

One of the simple good practices in spreadsheet design has been to use named ranges as opposed to opaque references as \$AC\$4 when building formulas. That's the conventional wisdom, and the experimenters set out to investigate this, as many spreadsheet best practices have been developed through individual experience and common sense, but no real scientific investigation. A small group of college students, who had been trained on spreadsheets the year previously, and who were given a little training on named ranges in Excel, were asked to debug a simple accounting spreadsheet. One group got spreadsheets using named ranges, and the other got one without.

The types of errors that had been entered ranged from non-material typos [e.g., misspelled header], rule violations [items contrary to written company policy], data entry errors [wrong numbers], and formula errors [wrong logic, wrong calculations]. In their results, they found little difference between the correction rate for the first three categories, but a noticeable difference for the final category of formula errors—the most serious type of error to occur in a spreadsheet, usually, and awfully common.

Those given the spreadsheets with named ranges found fewer formula errors than did the control group. The researchers posited a few explanations: high cognitive load [students did not develop the spreadsheets, and would have to keep checking the names and what cells they referred to], misplaced confidence in names [would do spot check, see expected named range, and move on without seeing error], or just plain lack of understanding of the error or how to correct it. Also, some of the range names were very long, and it could have been a function of poor naming conventions.

I cannot say that I am much surprised by the results. In previous research, different behavior of novices vs. experts has been shown when it comes to spreadsheet error and debugging. It would be interesting to see what the results were for experts, but it may require more complex spreadsheets in order to discover differences in debugging results.

There are limitations to this study, as freely noted by the researchers themselves, but it points out the important lesson that we should put our assumptions of risk management techniques [here, reducing spreadsheet error, as an operational risk] to the test. [Paper](#) 

For more papers and presentations from the EuSpRIG conference, check out the group's [Web site](#). You can find capsule reviews of the presentations at [Patrick O'Beirne's site](#).

You can find the research papers at the [archive site](#) using the search term "eusprig," which will bring up this year's papers as well as papers from previous conferences.



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